

Lesson 8 Homework Practice

Solve Two-Step Inequalities

Solve each inequality. Graph the solution set on a number line.

1. $4x - 3 < 9$ $x < 3$



2. $-11 \geq -1 - 2x$ $x \geq 5$



3. $-2 + 2x > -16$ $x > -7$



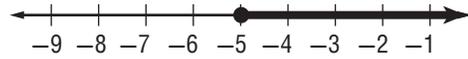
4. $-3x + 2 \leq 17$ $x \geq -5$



5. $7 < \frac{x}{2} + 4$ $x > 6$



6. $\frac{x}{5} - 1 \geq -2$ $x \geq -5$



7. $-4 \leq 4x + 8$ $x \geq -3$



8. $-3x - 3 > 12$ $x < -5$



9. **RENTAL BICYCLES** A rental company charges \$15 plus \$4 per hour to rent a bicycle. If Margie does not want to spend more than \$27 for her rental, write and solve an inequality to find how many hours she can rent the bicycle and not spend more than \$27. Interpret the solution.
 $4h + 15 \leq 27$, $h \leq 3$; **Margie can rent the bicycle for up to 3 hours.**

10. **MOWING GRASS** Rupesh is mowing grass to save money for a vacation. He charges \$12 per yard. Rupesh already has \$40 and wants to have at least \$148 to take with him. Write and solve an inequality to determine how many yards Rupesh needs to mow to have at least \$148. Interpret the solution.
 $12m + 40 \geq 148$, $m \geq 9$; **Rupesh must mow at least 9 yards.**

Lesson 8 Problem-Solving Practice

Solve Two-Step Inequalities

<p>1. CLOTHING Matilda needs at least \$112 to buy a new dress. She has already saved \$40. She earns \$9 an hour babysitting. Write and solve an inequality to find how many hours she will need to babysit to buy the dress. Interpret the solution.</p> <p>$9h + 40 \geq 112, h \geq 8$; Matilda must babysit at least 8 hours to be able to buy the dress.</p>	<p>2. SAVINGS Tameca already has \$55 dollars in her savings account. If she puts \$5 per week in her account, write and solve an inequality to find out how many weeks she must save to have at least \$100 in her account. Interpret the solution.</p> <p>$5w + 55 \geq 100, w \geq 9$; Tameca must save for at least 9 weeks to have at least \$100 in her account.</p>								
<p>3. COMMISSION Manuel earns \$400 per week plus a 3% commission on everything he sells. Write and solve an inequality to find out how much he must sell to have a weekly income of at least \$700. Interpret the solution.</p> <p>$0.03s + 400 \geq 700, s \geq 10,000$; Manuel must sell at least \$10,000 worth of merchandise to make at least \$700 per week.</p>	<p>4. CARS Remington needs at least \$3,000 to buy a used car. He already has \$1,800. If he saves \$50 per week, write and solve an inequality to find out how many weeks he must save to buy the car. Interpret the solution.</p> <p>$50w + 1,800 \geq 3,000, w \geq 24$; Remington must save for at least 24 weeks to be able to buy a car.</p>								
<p>5. POSTCARDS Latrell has \$8 to spend on postcards. He wants to buy one large postcard and some small ones. Write and solve an inequality to find out how many small postcards Latrell can purchase. Interpret the solution.</p> <table border="1"> <tbody> <tr> <td colspan="2" style="text-align: center;">Postcards</td> </tr> <tr> <td>Large</td> <td>\$2</td> </tr> <tr> <td>Medium</td> <td>\$1.50</td> </tr> <tr> <td>Small</td> <td>\$1.25</td> </tr> </tbody> </table> <p>$1.25s + 2 \leq 8, s \leq 4.8$; Latrell can buy at most 4 small post cards.</p>	Postcards		Large	\$2	Medium	\$1.50	Small	\$1.25	<p>6. CARRIAGE RIDE You want to spend at most \$12 on a carriage ride. The driver tells you there is an initial charge of \$5 plus \$0.50 per mile. Write and solve an inequality to find out how many miles you can ride. Interpret the solution.</p> <p>$0.5m + 5 \leq 12, m \leq 14$; You can ride at most 14 miles.</p>
Postcards									
Large	\$2								
Medium	\$1.50								
Small	\$1.25								
<p>7. BAKING Corey has 16 cups of flour to make cookies. One batch of cookies takes $2\frac{1}{2}$ cups of flour. If he must save 6 cups of flour for other baking, write and solve an inequality to find out how many batches of cookies he can make. Interpret the solution.</p> <p>$2.5b + 6 \leq 16, b \leq 4$; Corey can make up to 4 batches of cookies.</p>	<p>8. ENTERTAINMENT Sylvia needs at least \$310 for a new audio system. She has already saved \$120. She earns \$10 per hour at her part-time job. Write and solve an inequality to find how many hours she will need to work to buy the system. Interpret the solution.</p> <p>$10h + 120 \geq 310, h \geq 19$; Sylvia needs to work at least 19 hours to be able to buy the audio system.</p>								